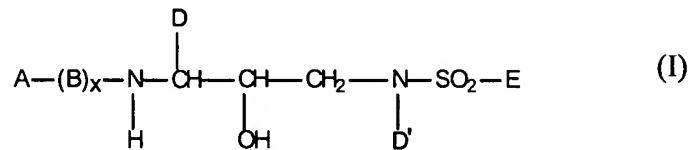


**Amendment to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

Claim 1 (currently amended): A compound of formula I:



wherein:

A is selected from the group consisting of -R<sup>1</sup>-C<sub>1</sub>-C<sub>6</sub> alkyl, which may be optionally substituted with one or more groups selected from the group consisting of hydroxy, C<sub>1</sub>-C<sub>4</sub> alkoxy, -NR<sup>2</sup>-CO-N(R<sup>2</sup>)(R<sup>2</sup>) and -CO-N(R<sup>2</sup>)(R<sup>2</sup>);

each R<sup>1</sup> is independently selected from the group consisting of -C(O)-, -S(O)<sub>2</sub>-, -C(O)-C(O)-, -O-C(O)-, -O-S(O)<sub>2</sub>, -NR<sup>2</sup>-S(O)<sub>2</sub>-, -NR<sup>2</sup>-C(O)- and -NR<sup>2</sup>-C(O)-C(O)-;

each ~~H~~ is independently selected from the group consisting of C<sub>3</sub>-C<sub>7</sub> cycloalkyl; C<sub>5</sub>-C<sub>7</sub> cycloalkenyl; C<sub>6</sub>-C<sub>10</sub> aryl; and 5-7 membered saturated or unsaturated heterocycle, containing one heteroatom selected from N, N(R<sup>2</sup>), O, S and S(O)<sub>n</sub>, wherein

~~said heterocycle may optionally be benzofused; and wherein any member of said Het~~

~~may be optionally substituted with one or more substituents selected from the group~~

~~consisting of  $\text{exo}$ ,  $\text{OR}^2$ ,  $\text{R}^2$ ,  $\text{N}(\text{R}^2)(\text{R}^2)$ ,  $\text{R}^2\text{OH}$ ,  $\text{CN}$ ,  $\text{CO}_2\text{R}^2$ ,  $\text{C}(\text{O})\text{N}(\text{R}^2)(\text{R}^2)$ ,~~

~~$\text{S}(\text{O})_2\text{N}(\text{R}^2)(\text{R}^2)$ ,  $\text{N}(\text{R}^2)\text{C}(\text{O})\text{R}_2$ ,  $\text{C}(\text{O})\text{R}^2$ ,  $\text{S}(\text{O})_n\text{R}^2$ ,  $\text{OCF}_3$ ,  $\text{S}(\text{O})_n\text{Ar}$ ,~~

~~methylenedioxy,  $\text{N}(\text{R}^2)\text{S}(\text{O})_2(\text{R}^2)$ , halo,  $\text{CF}_3$ ,  $\text{NO}_2$ ,  $\text{Ar}$  and  $\text{O Ar}$ ;~~

each  $\text{R}^2$  is independently selected from the group consisting of H and  $\text{C}_1\text{-}$

$\text{C}_3$  alkyl optionally substituted with Ar; with the proviso that when  $\text{R}^2$  is  $\text{C}_1\text{-C}_3$  alkyl

substituted with Ar, said Ar may not be substituted with an Ar-containing moiety;

B, when present, is  $-\text{N}(\text{R}^2)\text{-C}(\text{R}^3)(\text{R}^3)\text{-C}(\text{O})\text{-}$ ;

x is 0 or 1;

each  $\text{R}^3$  is independently selected from the group consisting of H, Het,  $\text{C}_1\text{-}$   
 $\text{C}_6$  alkyl,  $\text{C}_2\text{-C}_6$  alkenyl,  $\text{C}_3\text{-C}_6$  cycloalkyl and  $\text{C}_5\text{-C}_6$  cycloalkenyl, wherein any member  
of said  $\text{R}^3$ , except H, may be optionally substituted with one or more substituents selected  
from the group consisting of  $-\text{OR}^2$ ,  $-\text{C}(\text{O})\text{-NH-}\text{R}^2$ ,  $-\text{S}(\text{O})_n\text{-N}(\text{R}^2)(\text{R}^2)$ , Het,  $-\text{CN}$ ,  $-\text{SR}^2$ ,  
 $-\text{CO}_2\text{R}^2$ ,  $\text{NR}^2\text{-C}(\text{O})\text{-R}^2$ ;

each n is independently 1 or 2;

D and D' are independently selected from the group consisting of Ar;  $\text{C}_1\text{-}$   
 $\text{C}_4$  alkyl, which may be optionally substituted with one or more groups selected from  $\text{C}_3\text{-}$   
 $\text{C}_6$  cycloalkyl,  $-\text{OR}_2$ ,  $-\text{R}^3$ ,  $-\text{O-Ar}$  and Ar;  $\text{C}_2\text{-C}_4$  alkenyl, which may be optionally  
substituted with one or more groups selected from the group consisting of  $\text{C}_3\text{-C}_6$

cycloalkyl, -OR<sup>2</sup>, -R<sup>3</sup>, -O-Ar and Ar; C<sub>3</sub>-C<sub>6</sub> cycloalkyl, which may be optionally substituted with or fused with Ar; and C<sub>5</sub>-C<sub>6</sub> cycloalkenyl, which may be optionally substituted with or fused with Ar;

each Ar is independently selected from the group consisting of phenyl; 3-6 membered carbocyclic ring, wherein said carbocyclic ring may be saturated or unsaturated and optionally substituted with one or more groups selected from the group consisting of oxo, -OR<sup>2</sup>, -R<sup>2</sup>, -N(R<sup>2</sup>)(R<sup>2</sup>), -N(R<sup>2</sup>)-C(O)-R<sup>2</sup>, C<sub>1</sub>-C<sub>3</sub> alkyl substituted with -OH and optionally substituted with Ar, -CN, -CO<sub>2</sub>R<sup>2</sup>, -C(O)-N(R<sup>2</sup>)(R<sup>2</sup>), halo and -CF<sub>3</sub>;

E is selected from the group consisting of Het; O-Het; Het-Het; -O-R<sup>3</sup>; -NR<sup>2</sup>R<sup>3</sup>; C<sub>1</sub>-C<sub>6</sub> alkyl, which may be optionally substituted with one or more groups selected from the group consisting of R<sup>4</sup> and Het; C<sub>2</sub>-C<sub>6</sub> alkenyl, which may be optionally substituted with one or more groups selected from the group consisting of R<sup>4</sup> and Het; C<sub>3</sub>-C<sub>6</sub> saturated carbocycle, which may optionally be substituted with one or more groups selected from the group consisting of R<sup>4</sup> and Het; and C<sub>5</sub>-C<sub>6</sub> unsaturated carbocycle, which may optionally be substituted with one or more groups selected from the group consisting of R<sup>4</sup> and Het; and

each Het is independently selected from the group consisting of C<sub>3</sub>-C<sub>7</sub> cycloalkyl; C<sub>5</sub>-C<sub>7</sub> cycloalkenyl; C<sub>6</sub>-C<sub>10</sub> aryl; and 5-7 membered saturated or unsaturated heterocycle, containing one heteroatom selected from N, N(R<sup>2</sup>), O, S and S(O)<sub>n</sub>, wherein said heterocycle may optionally be benzofused; and wherein any member of said Het

may be optionally substituted with one or more substituents selected from the group

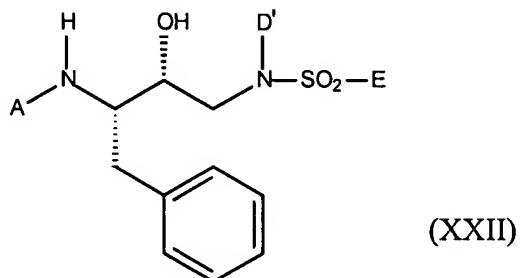
consisting of oxo, -OR<sup>2</sup>, -R<sup>2</sup>, -N(R<sup>2</sup>)(R<sup>2</sup>), -R<sup>2</sup>-OH, -CN, -CO<sub>2</sub>R<sup>2</sup>, -C(O)-N(R<sup>2</sup>)(R<sup>2</sup>), -

S(O)<sub>2</sub>-N(R<sup>2</sup>)(R<sup>2</sup>), -N(R<sup>2</sup>)-C(O)-R<sub>2</sub>, -C(O)-R<sup>2</sup>, -S(O)<sub>n</sub>-R<sup>2</sup>, -OCF<sub>3</sub>, -S(O)<sub>n</sub>-Ar,

methylenedioxy, -N(R<sup>2</sup>)-S(O)<sub>2</sub>(R<sup>2</sup>), halo, -CF<sub>3</sub>, -NO<sub>2</sub>, Ar and -O-Ar; and

each R<sup>4</sup> is independently selected from the group consisting of -OR<sup>2</sup>,  
-C(O)-NHR<sup>2</sup>, -S(O)<sub>2</sub>-NHR<sup>2</sup>, halo, -NR<sup>2</sup>-C(O)-R<sup>2</sup> and -CN.

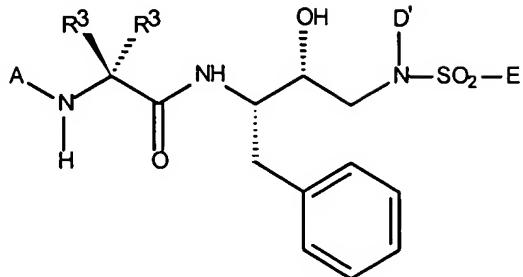
Claim 2 (original): The compound according to claim 1, characterized in that said compound has the structure of formula XXII:



and A, D' and E are defined as in claim 1.

Claim 3 (canceled).

Claim 4 (original): The compound according to claim 1, characterized in that said compound has the structure of formula XXXI:



(XXXI)

and A, R<sup>3</sup>, D' and E are defined as in claim 1.

Claim 5 (currently amended): A compound of formula I, wherein:

A is selected from the group consisting of -R<sup>1</sup>-C<sub>1</sub>-C<sub>6</sub> alkyl, which may be optionally substituted with one or more groups selected from the group consisting of hydroxy, C<sub>1</sub>-C<sub>4</sub> alkoxy;

each R<sup>1</sup> is independently selected from the group consisting of -C(O)-, -S(O)<sub>2</sub>-, -C(O)-C(O)-, -O-CO-, -O-S(O)<sub>2</sub>- and -NR<sup>2</sup>-S(O)<sub>2</sub>-;

~~each Het is independently selected from the group consisting of C<sub>3</sub>-C<sub>7</sub> cycloalkyl; C<sub>5</sub>-C<sub>7</sub> cycloalkenyl; C<sub>6</sub>-C<sub>10</sub> aryl; and 5-7 membered saturated or unsaturated heterocycle, containing one heteroatom selected from N, O and S, which may optionally be benzofused; wherein any member of said Het may be optionally substituted with one or more substituents selected from the group consisting of exo-, OR<sup>2</sup>, R<sup>2</sup>, N(R<sup>2</sup>)<sub>2</sub>, R<sup>2</sup>-~~

~~OH, CN, CO<sub>2</sub>R<sup>2</sup>, C(O)N(R<sup>2</sup>)<sub>2</sub> and S(O)<sub>2</sub>N(R<sup>2</sup>)<sub>2</sub>;~~

each R<sup>2</sup> is independently selected from the group consisting of H and C<sub>1</sub>-C<sub>3</sub> alkyl;

B, when present, is -NH-CH(R<sup>3</sup>)-C(O)-;

x is 0 or 1;

R<sup>3</sup> is selected from the group consisting of Het, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub>

alkenyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl and C<sub>5</sub>-C<sub>6</sub> cycloalkenyl, wherein any member of said R<sup>3</sup> may be optionally substituted with one or more substituents selected from the group consisting of -OR<sup>2</sup>, -C(O)-NH-R<sup>2</sup>, -S(O)<sub>n</sub>-N(R<sup>2</sup>)<sub>2</sub>, Het and -CN;

n is 1 or 2;

D and D' are independently selected from the group consisting of Ar; C<sub>1</sub>-C<sub>4</sub> alkyl, which may be optionally substituted with C<sub>3</sub>-C<sub>6</sub> cycloalkyl or Ar; C<sub>2</sub>-C<sub>4</sub> alkenyl, which may be optionally substituted with C<sub>3</sub>-C<sub>6</sub> cycloalkyl or Ar; C<sub>3</sub>-C<sub>6</sub> cycloalkyl, which may be optionally substituted or fused with Ar; and C<sub>5</sub>-C<sub>6</sub> cycloalkenyl, which may be optionally substituted or fused with Ar;

Ar is selected from the group consisting of phenyl; 3-6 membered carbocyclic ring wherein said carbocyclic ring may be saturated or unsaturated and optionally substituted with one or more groups selected from the group consisting of oxo, -OR<sup>2</sup>, -R<sup>2</sup>, -N(R<sup>2</sup>)<sub>2</sub>, -N(R<sup>2</sup>)-C(O)R<sup>2</sup>, -R<sup>2</sup>-OH, -CN, -CO<sub>2</sub>R<sup>2</sup>, -C(O)-N(R<sup>2</sup>)<sub>2</sub>, halo and -CF<sub>3</sub>;

E is selected from the group consisting of Het; -O-R<sup>3</sup>; -NR<sup>2</sup>R<sup>5</sup>; C<sub>1</sub>-C<sub>6</sub>

alkyl, which may be optionally substituted with one or more R<sup>4</sup> or Het; C<sub>2</sub>-C<sub>6</sub> alkenyl, which may be optionally substituted with one or more R<sup>4</sup> or Het; C<sub>3</sub>-C<sub>6</sub> saturated carbocycle, which may optionally be substituted with one or more R<sup>4</sup> or Het; and C<sub>5</sub>-C<sub>6</sub> unsaturated carbocycle, which may optionally be substituted with one or more R<sup>4</sup> or Het;

each Het is independently selected from the group consisting of C<sub>3</sub>-C<sub>7</sub> cycloalkyl; C<sub>5</sub>-C<sub>7</sub> cycloalkenyl; C<sub>6</sub>-C<sub>10</sub> aryl; and 5-7 membered saturated or unsaturated heterocycle, containing one heteroatom selected from N, O and S, which may optionally be benzofused; wherein any member of said Het may be optionally substituted with one or more substituents selected from the group consisting of oxo, -OR<sup>2</sup>, -R<sup>2</sup>, -N(R<sup>2</sup>)<sub>2</sub>, -R<sup>2</sup>-OH, -CN, -CO<sub>2</sub>R<sup>2</sup>, -C(O)-N(R<sup>2</sup>)<sub>2</sub> and -S(O)<sub>2</sub>-N(R<sup>2</sup>)<sub>2</sub>;

each R<sup>4</sup> is independently selected from the group consisting of -OR<sup>2</sup>, -C(O)-NHR<sup>2</sup>, -S(O)<sub>2</sub>-NHR<sup>2</sup>, halo and -CN; and

each R<sup>5</sup> is independently selected from the group consisting of H and R<sup>3</sup>.

Claim 6 (canceled).

Claim 7 (previously presented): The compound according to claim 1, wherein:

R<sup>3</sup> is selected from the group consisting of C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>5</sub>-C<sub>6</sub> cycloalkyl, C<sub>5</sub>-C<sub>6</sub> cycloalkenyl and a 5-6 membered saturated or unsaturated heterocycle, wherein any member of said R<sup>3</sup> may optionally be substituted with one or more substituents selected from the group consisting of -OR<sup>2</sup>, -C(O)-NH-R<sup>2</sup>, -S(O)<sub>n</sub>N(R<sup>2</sup>)(R<sup>2</sup>), Het, -CN, -SR<sup>2</sup>, -C(O)<sub>2</sub>R<sup>2</sup>, NR<sup>2</sup>-C(O)-R<sup>2</sup>; and

D' is selected from the group consisting of C<sub>1</sub>-C<sub>3</sub> alkyl and C<sub>3</sub> alkenyl, wherein said alkyl or alkenyl may optionally be substituted with one or more groups selected from the group consisting of C<sub>3</sub>-C<sub>6</sub> cycloalkyl, -OR<sup>2</sup>, -O-Ar and Ar.

Claims 8-10 (canceled).

Claim 11 (original): The compound according to claim 1, wherein said compound has a molecular weight less than or equal to about 700 g/mol.

Claim 12 (previously presented): The compound according to claim 11, wherein said compound has a molecular weight less than or equal to about 600 g/mol.

Claims 13-17 (canceled).

Claim 18 (withdrawn): A method of using a compound according to any one of claims 1-2, 4-5 or 7 as a therapeutic agent against viral infection, said virus requiring an aspartyl protease for an obligatory life cycle event.

Claim 19 (withdrawn): The method according to claim 18, wherein said virus is HIV-1, HIV-2, or HTLV.

Claim 20 (withdrawn): A method of inhibiting enzymatic activity in an aspartyl protease comprising the step of contacting the aspartyl protease with a compound according to any one of claims 1-2, 4-5 or 7.

Appl'n No. 10/786,997  
Amendment and Reply dated March 23, 2007  
Reply to Office Action of September 25, 2006

Claim 21 (withdrawn): The method according to claim 20, wherein said aspartyl protease is HIV protease.

Claim 22 (withdrawn): A method for preventing HIV infection in a mammal comprising the step of administering to said mammal a pharmaceutically effective amount of a compound according to any one of claims 1-2, 4-5 or 7.

Claim 23 (withdrawn): A method for treating HIV infection in a mammal comprising the step of administering to said mammal a pharmaceutically effective amount of a compound according to any one of claims 1-2, 4-5 or 7.

Claim 24 (withdrawn): The method according to claim 22 or 23, wherein said step of administering comprises oral administration or administration by injection.

Claims 25-27 (canceled).